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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,571	01/25/2002	Charles J. Kramer	CJK-10E	5437

37282 7590 10/27/2003

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EXAMINER

AMARI, ALESSANDRO V

ART UNIT PAPER NUMBER

2872

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,571

Applicant(s)

KRAMER, CHARLES J.

Examiner

Alessandro V. Amari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5, 7 and 10-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 8 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species 1 in Paper No. 6 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 5, 7 and 10-20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Shiono et al US Patent 6,487,016.

In regard to claim 1, Shiono et al discloses (see Figure 7) an optical wavelength selection device comprised of an optical beam source (1), means for collimating (3) said optical beam to produce a collimated optical beam, a diffraction grating assembly (10a, 6) for diffracting said collimated beam to produce a collimated optical diffracted beam, means for modifying the polarization state (7) of said collimated optical diffracted beam

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and means for focusing (4) said collimated optical diffracted beam wherein said means for modifying the polarization state of said collimated optical diffracted beam is disposed within said diffraction grating assembly as shown in Figure 7 and as described in column 11, lines 23-65.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cao US Patent 6,556,320.

In regard to claim 1, Cao discloses (see Figure 7a) an optical wavelength selection device comprised of an optical beam source (702), means for collimating said optical beam (703) to produce a collimated optical beam, a diffraction grating assembly (710) for diffracting said collimated beam to produce a collimated optical diffracted beam, means for modifying the polarization state (720) of said collimated optical diffracted beam and means for focusing said collimated optical diffracted beam (712) as described in column 8, lines 39-67 and column 9, lines 1-31. Regarding claim 2, Cao discloses that the optical beam source comprises a fiber optic cable as described in column 8, lines 41-42. Regarding claim 3, Cao discloses that optical beam source provides light at a wavelength of from about 1280 to 1640 nanometers. Although the prior art does not specifically disclose the claimed wavelength range, this feature is

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seen to be an inherent teaching of the device since these wavelength ranges encompass those used in optical communications.

However, Cao, in regard to claim 1, does not teach that said means for modifying the polarization state of said collimated optical diffracted beam is disposed within said diffraction grating assembly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the means for modifying the polarization state of said collimated optical diffracted beam be disposed within said diffraction grating assembly, since it has been held that making in one piece an article which has formerly been formed in multiple pieces involves only routine skill in the art. One would have been motivated to form the polarization state modifying means with the diffraction grating assembly in order to provide for a more compact device. *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965)

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiono et al US Patent 6,487,016 in view of Bowen et al US Patent 5,056,881.

Regarding claims 2 and 3, Shiono et al teaches the invention as set forth above but does not teach that the source comprises a fiber optic cable and that the optical beam source provides light at a wavelength of from about 1280 to 1640 nanometers.

Bowen et al teaches that the source comprises (see Figures 3 and 4) a fiber optic cable (42) and that the optical beam source provides light at a wavelength of from about 1280 to 1640 nanometers as described in column 2, lines 64-68 and column 3, lines 1-7.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the fiber optic cable at the wavelength ranges cited in Bowen et al in the device of Shiono et al in order to isolate the beam source from interfering reflected light.

Allowable Subject Matter

7. Claims 4, 6, 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claim 4 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, "a first diffraction grating element, a reflective mirror element disposed behind said first transmission diffraction grating element, and a quarterwave retardation plate disposed between said first transmission diffraction grating element and said reflective mirror element" as set forth in the claimed combination. Claims 6, 8 and 9 are also allowable based upon their dependence on claim 4.

The prior art of record, Shiono et al, Bowen et al and Cao teach an optical wavelength selection device comprised of an optical beam source, means for collimating said optical beam to produce a collimated optical beam, a diffraction grating assembly for diffracting said collimated beam to produce a collimated optical diffracted beam, means for modifying the polarization state of said collimated optical diffracted beam and means for focusing said collimated optical diffracted beam with the optical beam source comprising a fiber optic cable at the wavelength ranges recited. However,

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the prior art does not teach a first diffraction grating element, a reflective mirror element disposed behind said first transmission diffraction grating element, and a quarterwave retardation plate disposed between said first transmission diffraction grating element and said reflective mirror element and there is no motivation or teaching to modify this difference as derived.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ono et al US Patent 5,883,741 teaches an optical wavelength selection device comprised of an optical beam source, and a diffraction grating assembly for diffracting said beam to produce an optical diffracted beam, and a means for modifying the polarization state of said diffracted beam and means for focusing said diffracted beam as shown in Figure 11A.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (703) 306-0533. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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ava *Q14*

17 October 2003


MARK A. ROBINSON
PRIMARY EXAMINER